

## Chapter

## 2

## Review

Write the sentence as an inequality.

1. The sum of twice a number
- $n$
- and 8 is at most 25.

$$2n + 8 \leq 25$$

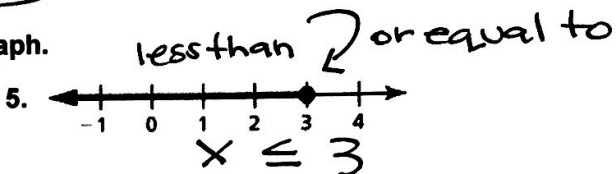
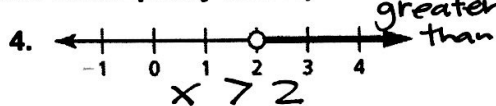
2. The temperature
- $t$
- is at least
- $75^\circ\text{F}$
- .

$$t \geq 75$$

3. The cost of a ticket
- $t$
- will be no more than \$26.

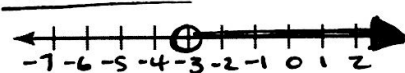
$$t \leq 26$$

Write an inequality that represents the graph.



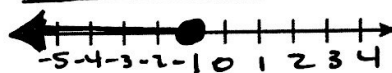
Solve the inequality. Graph the solution.

6.  $-9 < m - 6$



$$-3 < m \text{ or } m > -3$$

7.  $-3z \geq 6 + 3z$



$$-6z \geq 6$$
  
$$z \leq -1$$

Solve the inequality.

8.  $m \geq 5m - 4$

$$-5m - 5m$$
  
$$-4m \geq -4$$

$$-4m \geq -4$$
  
$$m \leq 1$$

9.  $\frac{x}{4} + 6 \leq x + 8$

$$\frac{1x}{4} \leq x + 2$$

$$-\frac{1x}{4} \quad -x$$
  
$$-\frac{4}{3} = \frac{3}{4}x \leq 2 \cdot -\frac{4}{3}$$

$$x \geq -\frac{8}{3}$$

10.  $\frac{1}{2}h + 2 \geq \frac{1}{2}(h + 8)$

$$\frac{1}{2}h + 2 \geq \frac{1}{2}h + 4$$

$$2 \geq 4$$
  
$$\text{NS}$$

11.  $4k - (3 + 3k) > 2$

$$4k - 3 - 3k > 2$$

$$k - 3 > 2$$

$$k > 5$$

12.  $4n + 3 < 6n + 8 - 2n$

$$4n + 3 < 4n + 8$$

$$3 < 8 \quad \text{IM}$$

13.  $10 - 2(3x - 1) > 6x + 10$

$$10 - 6x + 2 > 6x + 10$$

$$12 - 6x > 6x + 10$$

$$12 > 12x + 10$$

$$\frac{2}{12} > \frac{12x}{12}$$

$$\frac{1}{6} > x$$

14. You need to write an essay that has at least 500 words. You have written 285 words so far. Write and solve an inequality that represents the number of words
- $w$
- that you have left to write.

$$w + 285 \geq 500$$
  
$$w \geq 215$$

15. You need at least 30 cubic feet of sand to fill a sand box. Each bag contains 2.5 cubic feet of sand. Write and solve an inequality that represents the number of bags
- $b$
- that you need to buy.

$$2.5b \geq 30$$
  
$$b \geq 12$$

16. You are planning a school carnival. The equipment costs \$180 to rent. You plan to charge \$4.00 per ticket. You would like to have a profit of at least \$500. Write and solve an inequality that represents the number of tickets
- $t$
- that you need to sell.

$$4t - 180 \geq 500$$

$$t \geq 170$$

17. You want to purchase a calculator for at most \$115. You have saved \$30 so far. You earn \$7.50 per hour at your job. Write and solve an inequality that represents the number of hours
- $h$
- that you need to work.

$$30 + 7.50h \leq 115$$

$$h \leq 11.3$$

$$h \leq 11\frac{1}{3}$$

$$h \leq 11 \text{ hr, } 20 \text{ min}$$

$$\frac{1}{3} \cdot \frac{60 \text{ min}}{1 \text{ hr}} = \frac{60}{3} = 20 \text{ min}$$